

What is claimed is:

1. A system for detecting and transmitting test data from a housing (10) comprising a pressure chamber (11) that is filled with a high-pressure fluid and is homogeneously pressurized via printed conductors (21) connected to a sensing element (23) situated in the pressure chamber (11) and are guided out of the housing (10), a circuit board (12), both faces of which being subjected to the pressure prevailing in the pressure chamber (11) and at least one portion (30) of which extending out of the housing (10), being situated inside the pressure chamber (11) as a support for the strip conductors (21) and the housing (10) that encloses the pressure chamber (11) being separated in the plane of the circuit board and the faces of the housing halves (13, 14) clamping the circuit board (12) between them in such a way that radial forces exerted within the circuit board are absorbed when pressure is applied.
2. The system as recited in Claim 1,  
wherein the housing halves (13, 14) hold the circuit board (12) by a frictional connection.
3. The system as recited in Claim 1,  
wherein the housing halves (13, 14) hold the circuit board (12) by a positive connection.
4. The system as recited in one of Claims 1 through 3,  
wherein the circuit board (12) is made from a hard plastic.
5. The system as recited in one of Claims 1 through 4,  
wherein the one housing half (14) encompasses the opposite facing other housing half (13) externally via an axially projecting flange (16), the external edge area of the circuit board (12) being in contact with the inside of the flange (16).
6. The system as recited in Claim 5,

wherein the flange (16) has a cutout (17) extending across a limited circumferential portion, which is penetrated by a projection (30) extending outwardly from the circuit board (12).

7. The system as recited in one of Claims 1 through 6,  
wherein seals (18) are situated between the faces (15) of the housing halves (13, 14)  
which clamp the circuit board (12) and the surfaces of the circuit board (12).

8. The system as recited in one of Claims 1 through 7,  
wherein the circuit board (12) has a recess (19) used to equalize pressure between sub-chambers (11a, 11b) of the pressure chamber (11) located on both sides of the circuit board.

9. The system as recited in one of Claims 1 through 8,  
wherein the circuit board is designed to accommodate a position measuring system and a position pickup coil (23) being situated in the recess (19) and connected to the printed conductors (21) located on the circuit board (12), the position pickup coil (23) lying in the fluid located in the pressure chamber (11) surrounding a position pickup core (25) which is axially movable through the recess (19) of the circuit board (12) and the position pickup coil (25).

10. The system as recited in Claim 9,  
wherein the wire winding (32) of the position pickup coil (23) which is located on the coil frame (31) is spray coated with a suitable material.

11. The system as recited in Claim 10,  
wherein the spray coating (35) of the wire winding (32) includes the connections of the wire winding (32) to the printed conductors (21) extending in the circuit board (12).

12. The system as recited in Claim 10 or 11,

wherein the material of the spray coating (35) matches the material of the circuit board (12).

13. The system as recited in one of Claims 1 through 12,  
wherein at least one sensor that detects a change of length of the circuit board (12) is  
situated on the circuit board (12).

14. The system as recited in Claim 13,  
wherein the sensor is a strain gauge.

15. The system as recited in Claim 13,  
wherein a sensor recording a change of the material thickness of the circuit board (12) is  
situated in the circuit board (12).

16. The use of a system designed as recited in one of Claims 1 through 15 for detecting  
the longitudinal movements of a valve piston movable in hydraulic valves.

17. The use of a system designed as recited in one of Claims 1 through 15 in an actuator  
for activating a valve used in hydraulics or compressed air technology having a coil  
frame movable through magnetic loading in a magnetic cylinder having a sequence of  
permanent magnets and pole discs in a magnetically conductive housing.